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## New Tree-climbing Rats from Mexico and Colombia

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In the collections of mammals recently made by Thomas MacDougall on the Isthmus of Tehuantepec, Mexico, there are two skins and three skulls of a large tree-climbing rat. One skin and skull of a subadult male and the skull of an older individual belong to a large-toothed group, possibly allied to *Tylomys tumbalensis*, and resemble *T. gymnurus* of Veracruz in the size of the teeth and in having white under parts and a uniform Snuff Brown<sup>1</sup> back. The other specimen is a small-toothed species and belongs in the *T. nudicaudus* group. This specimen seems to differ sufficiently in external and cranial characters from described forms to be considered a representative of a new subspecies.

The Colombian *Tylomys* was collected by Marston Bates in 1943 and came from the Cordillera Oriental, northwest of Bogotá. It seems to differ sufficiently from Thomas' species *T. mirae* from northern Ecuador and from Anthony's Panamanian species, *T. fulviventer*, from Tacarcuna, the two nearest species (though widely separated geographically), to be recognized as a new form.

*Tylomys nudicaudus microdon*, new subspecies

OAXACA TREE RAT

TYPE: A.M.N.H. No. 165991, skin and skull, teeth well worn, fully adult male; La Gloria, rain forest at about 2500 feet elevation, 10 kilometers southeast of Santa María Chimalapa, Isthmus of Tehuantepec, Oaxaca, Mexico; collector, Thomas MacDougall; April 2, 1954; original

<sup>1</sup> Capitalized color terms are after Ridgway, "Color standards and color nomenclature," Washington, D. C., 1912.

no. 1313. The skin of the type is in good condition, and the skull is complete except that the supraoccipital is broken.

GENERAL CHARACTERS: A relatively small tree rat with large ears, dark dorsal stripe, white under parts, grayish muzzle, and small teeth.

DESCRIPTION OF TYPE: The color of upper parts in fresh pelage is between Cinnamon-Buff and Wood Brown, with a broad, dark dorsal band extending down back from between ears to rump owing to a heavy admixture of glossy, blackish hairs; cheeks and lower sides of body nearly clear Cinnamon Buff; top of head grayer than back, and area around eye not noticeably darker than rest of head; base of whiskers, nose, lips, and chin Hair Brown; inner sides of forearms and under parts white to roots of hairs; the line of demarcation moderately well defined; ears blackish, almost naked, with an indistinct, narrow, whitish margin; hind limbs and outer sides of fore limbs like sides of body; upper sides of fore and hind feet Bister; toes and a narrow edging on outer side of hind feet white; tail naked except for a few hairs growing between scales, blackish for most of its length, less than terminal third indistinctly dull, soiled whitish. The scales are sharply squared instead of being somewhat hexagonal and grouped to form even, circular bands.

Skull similar to that of *T. tumbalensis* Merriam from Tumbala, 5500 feet elevation, Chiapas, but with smaller molariform teeth and longer and heavier rostrum. Nasals long and narrowly wedge-shaped, truncate posteriorly and scarcely surpassed by premaxillae; zygomatic arches strong and broadly spreading; zygomatic notch<sup>1</sup> broad and shallow; anterior palatine foramina rather long and narrow and extending posteriorly to a line across front of molars; supraorbital ridges strongly developed, with a prominent postorbital angle, from which they extend nearly straight backward to outer corners of interparietal and are only slightly bowed outward in the parietal region; interparietal relatively narrow, convex anteriorly and nearly straight across posteriorly; bullae normal for the genus, moderately large and rounded with well-developed anterior prolongation; palatal bridge extending backward to a line across posterior border of last molars; molariform teeth small and narrow.

MEASUREMENTS OF TYPE: Skin, measured in the field: total length, 422 mm.; length of tail, 227; length of hind foot, 39 (dry, 37.5); length of ear from notch after dampening, 22. Skull: greatest length, 49.5; condylobasal length, 45 (to front of incisors); basal length, 42.4; palatal length, 24.2; palatal bridge, 8.2; length of nasals, 18.7; zygomatic breadth, 26; width of braincase across ridges, 19.7; interorbital width,

<sup>1</sup> Refers to the notch on the superior surface of the skull at the anterior border of the zygomatic arch.

9.1; greatest width of rostrum, 9.5; width of palate across  $m^2$ - $m^2$ , 8.6; width of anterior upper molar, 2; alveolar length of upper molariform tooth row, 8.1; crowns, 8.3.

REMARKS: *Tylomys n. microdon* appears to be about the size of *T. bullaris* Merriam from Tuxtla Gutierrez, 1800 feet elevation, Chiapas, but the bullae in *microdon* are normal, not large, broadly rounded, without anterior prolongation as in *bullaris*. *Tylomys gymnurus* Villa from Presidio, 1000 feet, Veracruz, is about the size of *microdon* in external measurements, but it has a shorter and narrower skull, shorter rostrum, and much larger molariform teeth than *microdon* and is as large as *tumbalensis* in cranial measurements. In Villa's figure of the type skull, the zygomatic arches taper evenly forward to the rostrum without showing an indication of a zygomatic notch which is quite distinct in *microdon*.

*Tylomys n. microdon* is apparently nearest to typical *T. nudicaudus*. It compares favorable with Peters' figures of the type skull, an immature female from Guatemala (exact locality not known), which has a maxillary tooth measuring 8.5 mm. In cranial characters *microdon* also is much like a subadult male with small molariform teeth (8 mm.) from Chimoxan, 1500 feet, Guatemala, identified by Goldman and referred by Goodwin, 1934, to *T. nudicaudus*, but it is smaller than the Guatemalan specimen and differs in some external and cranial details. The

TABLE 1  
MEASUREMENTS (IN MILLIMETERS) OF TYPE SPECIMENS OF  
*Tylomys* FROM MEXICO

	<i>tumbalensis</i>	<i>gymnurus</i>	<i>microdon</i>	<i>bullaris</i>
	Subadult	Adult	Adult	Juvenile
	♂	♂	♂	♂
	Tumbala	Presidio	La Gloria	Tuxtla
	5500 feet	1000 feet	2500 feet	1800 feet
Skin				
Total length	448.0	400.0	422.0	324.0
Length of tail	234.0	200.0	227.0	158.0
Length of hind foot	46.0	38.6	39.0	37.5
Skull				
Length	49.1	49.0	49.5	—
Condylobasal length	43.8	43.8	45.3	36.2
Length of nasals	16.1	16.1	18.7	—
Zygomatic breadth	24.3	25.2	26.0	20.8
Interorbital breadth	8.9	8.5	9.1	7.8
Maxillary tooth row	9.3	9.0	8.1	8.2

second Guatemalan specimen referred by Goodwin, 1934, to *nudicaudus* came from La Primavera, a near-by locality, but it was taken at a higher elevation, 3200 feet, than was the Chimoxan specimen. This individual may well be *tumbalensis*, as it has similar buffy brown under parts (which may or may not be a significant character), is even larger than the type in external and cranial measurements, and has equally large molariform teeth (9 mm.).

A subadult male from Ixcuintepec, 3000 feet, Oaxaca, is Snuff Brown on upper parts, without a darkened dorsal area, paler on sides of body, and extensively white on the under parts. The skull of this specimen and that of another older individual without skin from the District of Tehuantepec have large molariform teeth (9.0, 8.8 mm.) and short, wide, palatine foramina. These two specimens are provisionally referred to *T. gymnurus*.

*Tylomys mirae bogotensis*, new subspecies

BOGOTÁ TREE RAT

TYPE: A.M.N.H. No. 143523, skin and skull, fully adult male, teeth showing considerable wear; Volcán Caparrapi on the western slopes of the Cordillera Oriental, elevation about 1270 meters, 90 kilometers north-northwest of Bogotá and 10 kilometers west of La Palma, Colombia; collector, Marston Bates; November 18, 1943; original no. 2643. The skin of the type is in good condition, and the skull complete except for tympanic bullae.

GENERAL CHARACTERS: A large, uniformly colored tree rat with comparatively small ears, long, naked tail, and very long vibrissae (107.5 mm.), similar in general characters to *Tylomys mirae* Thomas from Paramba, 1100 meters elevation, northern Ecuador, but lighter in color on the back, with dusky instead of white under parts, and smaller teeth.

DESCRIPTION OF TYPE: General color of upper parts about Snuff Brown, more buffy on sides of body and grayer on head, with a dusky ring around eye; hairs on under parts whitish at extreme base, followed by a broad band of plumbeous and tipped with Light Buff; small areas on the inguinal region, on the throat, and on the chest, and a narrow line down inner sides of fore and hind limbs white; an indistinct, very narrow white line down abdomen; outside fore and hind limbs like sides of body; upper sides of fore and hind feet Bister; terminal phalanges and claws white; ears blackish; proximal half of tail blackish brown broken by narrow yellowish rings between the scales; terminal half of tail yellowish white; the junction between light and dark areas sharply defined.

Skull large and angular without any indication of a zygomatic notch;

nasals truncate posteriorly and ending on a line with premaxillae; supra-orbital ridges with prominent postorbital angle from which they run backward and are curved strongly outward in parietal region; molariform teeth relatively small and narrow.

MEASUREMENTS OF TYPE: (Those of the type of *T. mirae*, adult male, teeth much worn, in parentheses). Total length, 470 mm. (496); length of tail, 240 (266); length of hind foot, 40, in dry skin with claws, 41.5 (*s.u.*, 41); ear, 20, from notch after dampening, 22.2 (28); weight, 265 grams. Skull: greatest length, 52.7 (54); condylobasal length, 48; basal length, 45.5; basilar length, 42.3 (42.5); palatilar length, 21.5 (22.2); palatal bridge, 8.3; zygomatic breadth, 27.3 (28); length of nasals, 18.5 (19); width of braincase across ridges, 19.8 (20); interorbital breadth, 10.5 (11); greatest breadth of rostrum, 10; width of anterior upper molar, 2.1; diastema, 14.5 (15); alveolar length of upper molariform tooth row, 8.1; of crowns, 8.25 (8.8).

REMARKS: A series of six specimens apparently referable to *T. mirae* from Barbacoas, southwestern Colombia, are much darker in color than *bogotensis*. All have the hair on under parts white to roots and large molariform teeth averaging 8.7 mm. *Tylomys m. bogotensis* is not very unlike the type of *T. fulviventer* Anthony from Tacarcuna, Panama, a subadult female which has similar small molariform teeth (7.8 mm.), but *bogotensis* is larger, grayer in color, and the under parts are much darker, and it has no indication of a zygomatic notch which is quite distinct in *fulviventer*.

